



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER OF PATENTS AND TRADEMARKS  
Washington, D.C. 20231  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/673,614	10/19/2000	Jean-Francois Grimaldi	Q61365	2115

7590

04/23/2003

Sughrue Mion Zinn  
Macpeak & Seas  
2100 Pennsylvania Avenue NW  
Washington, DC 20037-3213

EXAMINER

NGUYEN, PHUONGCHI T

ART UNIT

PAPER NUMBER

2833

DATE MAILED: 04/23/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/673,614

Applicant(s)

GRIMALDI ET AL.

Examiner

Phuongchi T Nguyen

Art Unit

2833

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).

## Status

- 1) ☒ Responsive to communication(s) filed on the telephone interview of 03/03/03.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1 and 3-16 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1 and 3-16 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claims \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are objected to by the Examiner.
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. § 119

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
- a) ☐ All b) ☐ Some \* c) ☐ None of the CERTIFIED copies of the priority documents have been:
1. ☐ received.
2. ☐ received in Application No. (Series Code / Serial Number) \_\_\_\_\_.
3. ☐ received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. & 119(e).

## Attachment(s)

- 14) ☒ Notice of References Cited (PTO-892)
- 15) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 16) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_.
- 17) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_.
- 18) ☐ Notice of Informal Patent Application (PTO-152)
- 19) ☐ Other: \_\_\_\_\_.

Art Unit: 2833

### DETAILED ACTION

1. The finality of the Office Action of January 28, 2003 is hereby vacated. The following is an action on the merits.

Applicant's amendment of November 12, 2002 is acknowledged. It is noted that claims 1, 5 and 9 are amended; new claims 12-16 are added.

#### *Claim Objections*

2. Claims 9, 12 and 13 are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Claims 9, 12 and 13, lines 2-8, 2-7 and 2-7, respectively, "which is ...coplanar" contains the limitations of claim 5.

#### *Claim Rejections - 35 USC § 102*

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) The invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

4. Claims 1, 3-5, 7 and 14-16 are rejected under 35 U.S.C. 102(e) as being anticipated by

W. H. McKee (US3115379).

In regard to claim 1, W. H. McKee discloses (attachment 1) a spring contact (15) for use in a connector, which spring contact (15) is substantially U-shaped and has two branches (20', 21') and a base (13) joining the first and second branches (20', 21') at one end for forming a U-shape, and wherein each of the first and second branches (20', 21') complete an electrical

Art Unit: 2833

connection with a device (contact at 1 inside a device), characterized in that the first and second branches (20', 21') lie in two diverging planes. The intersection (A) of the two planes (20', 21') is within the base (13) of the U-shape, and the first branch (portion B of 20') and the base (13) are coplanar.

In regard to claim 3, W. H. McKee discloses (attachment 1) the spring contact (15) characterized in that the electrical contact of at least one branch (20' or 21') is at the free end (C) of the branch (20' or 21').

In regard to claim 1, W. H. McKee discloses (attachment 2) a spring contact (15) for use in a connector, which spring contact (15) is substantially U-shaped and has two branches (20', 16) and a base (13) joining the first and second branches (20', 16) at one end for forming a U-shape, and wherein each of the first and second branches (20', 16) complete an electrical connection with a device (contact at 1 inside a device), characterized in that the first and second branches (20', 16) lie in two diverging planes. The intersection (A) of the two planes (20', 16) is within the base (13) of the U-shape, and the first branch (portion B of 20') and the base (13) are coplanar.

In regard to claim 3, W. H. McKee discloses (attachment 2) the spring contact (15) characterized in that the electrical contact of at least one branch (20' or 16) is at the free end (C) of the branch (20' or 16).

In regard to claim 4, W. H. McKee discloses (attachment 2) the spring contact (15) characterized in that one of the first and second branches (16) is adapted to come into contact with a printed circuit (25) and the other of the first and second branches (20') is adapted to come

Art Unit: 2833

into contact with a battery; The shape of the contacts allows contact with theses devices. They are therefore seen to be adapted to do so.

In regard to claim 5, W. H. McKee further discloses (attachment 2) an electrical connector comprising a first face (where 20' located) and a second face (where 16 located) opposite the first face (where 20' located), and at least one housing (it is inherent) for receiving a spring contact (15) and opening onto both of the first and second faces (where 20' and 16 located), wherein the spring contact (15) is positioned in the housing (it is inherent) so that a plane containing a base (13) of the U-shape is substantially parallel to the respective planes of the faces (where 16 located) of the connector.

In regard to claim 7, W. H. McKee discloses (attachment 2) the connector further comprising a retainer (housing) for retaining the spring contact (15) in the housing.

In regard to claim 14, in further limit of claim 1 based on attachment 2, W. H. Mokee discloses (attachment 2) the first branches (20') make electrical contact with a first device (contact at 1 of the device), and the second branches (16) make electrical contact with a second device (circuit board)(figure 15).

In regard to claim 15, W. H. McKee discloses (attachment 2) the connector characterized in that the electrical contact (15) of at least one branch (20') is at the free end (C) of the branch (20').

In regard to claim 16, W. H. McKee discloses (attachment 2) the spring contact (15) characterized in that the second branches (16) is a printed circuit (figure 15) and the first branches (20') is a battery; The shape of the contacts allows contact with theses devices. They are therefore seen to be adapted to do so.

Art Unit: 2833

5. Claims 1 and 3 are rejected under 35 U.S.C. 102(e) as being anticipated by Gettig et al (US4, 963,102).

In regard to claim 1, Gettig et al discloses (attachment 3) a spring contact (T) for use in a connector, which spring contact (T) is substantially U-shaped and has two branches (54, 70) and a base (A) joining the first and second branches (54, 70) at one end for forming a U-shape, and wherein each of the first and second branches (54, 70) complete an electrical connection with a device (contact to mating contact), characterized in that the first and second branches (54, 70) lie in two diverging planes. The intersection of the two planes is within the base (A) of the U-shape, and the first branch (54) and the base (A) are coplanar.

In regard to claim 3, Gettig et al discloses (attachment 3) the spring contact (T) characterized in that the electrical contact of at least one branch (54) is at the free end (56) of the branch (54).

6. Claims 1, 3-8 and 10-11 are rejected under 35 U.S.C. 102(e) as being anticipated by Hughes et al (US6, 077,130).

In regard to claim 1, Hughes et al discloses (figure 3) a spring contact (6) for use in a connector, which spring contact (6) is substantially U-shaped and has two branches (22, 24) and a base (30) joining the first and second branches (22, 24) at one end for forming a U-shape, and wherein each of the first and second branches (22, 24) complete an electrical connection with a device (54), characterized in that the first and second branches (22, 24) lie in two diverging planes. The intersection (28) of the two planes is within the base (30) of the U-shape, and the first branch (22) and the base (30) are coplanar.

Art Unit: 2833

In regard to claim 3, Hughes et al discloses (figure 3) the spring contact (6) characterized in that the electrical contact of at least one branch (22) is at the free end (36) of the branch (22).

In regard to claim 4, Hughes et al discloses (figure 3) the spring contact (6) characterized in that one of the first and second branches (22) is adapted to come into contact with a printed circuit (18) and the other of the first and second branches (24) is adapted to come into contact with a battery; The shape of the contacts allows contact with theses devices. They are therefore seen to be adapted to do so.

In regard to claim 5, Hughes et al further discloses (figure 3) an electrical connector (2) comprising a first face (adjacent 18) and a second face (adjacent 12) opposite the first face (adjacent 18), and at least one housing (12) for receiving a spring contact (6) and opening (where 10 located, and slot 64 located) onto both the first face (adjacent 18) and the second face (adjacent 12) (figure 2), wherein the spring contact (6) is positioned in the housing (12) so that a plane (adjacent 18) containing a base (30) of the U-shape is substantially parallel to the respective planes of the faces (adjacent 18) of the connector (2).

In regard to claim 6, Hughes et al discloses (figure 3) the connector (2) further comprising a guide (slot 64) to guide the spring contact (6) into position in the housing (12).

In regard to claim 7, Hughes et al discloses (figure 4) the connector (2) further comprising a retainer (10) for retaining the spring contact (6) in the housing (12).

In regard to claim 8, Hughes et al discloses (figure 1) the connector characterized in that one branch (24) of the spring contact (6) projects from the housing (12).

Art Unit: 2833

In regard to claim 10, Hughes et al discloses (figure 1) the connector characterized in that one face (adjacent 18, 14) of the connector (2) has a pick-up area (44) substantially at the center of a top face (of 12).

In regard to claim 11, Hughes et al discloses (figure 3) the connector having lateral faces (14, adjacent 8) joining the first and second faces (adjacent 18, 12), characterized in that the lateral faces (14, adjacent 8) include at least one recess (52) and a free end (50) of one branch (24) of the spring contact (6) projects into the recess (52) (see figure 5).

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Henry (US5857867), Bigotto (US6065987), Harwth et al (US4820182), Maurice (US5588859) and Yumibe et al (US5466161) are cited to show in the electrical connector having a spring contact forming two branches to be an U-shape.

***Allowable Subject Matter***

7. Claims 9, 12, 13 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

8. The following is a statement of reasons for the indication of allowable subject matter: the prior fails to teaches or suggests a connector including a plurality of housings each receiving a spring contact in two adjacent housing to be positioned such that they are substantially parallel but the opposite way round to each other, the first branch contact being adjacent the second branches of adjacent contact.



Art Unit: 2833

*Conclusion*

Any inquiry concerning this communication or earlier communications from the examiner should be directed to PhuongChi Nguyen whose telephone number is (703) 305-0729. The examiner can normally be reached on Monday through Thursday from 8:00AM to 4:30PM.

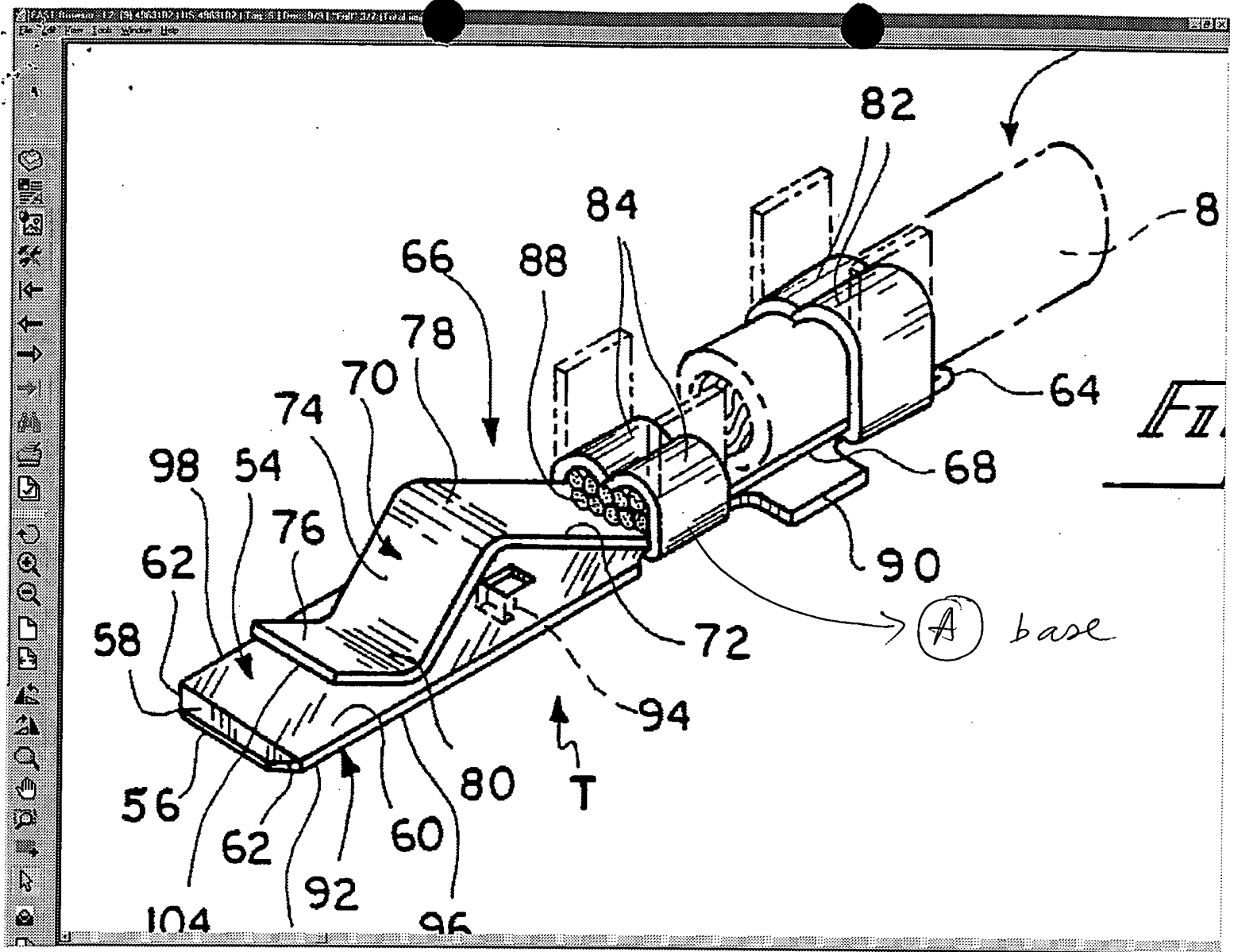
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paula Austin Bradley, can be reached on (703)308-2319. The fax phone number for the organization where this application or proceeding is assigned is (703) 306-3900.

April 14, 2003

*P. Bradley*  
P. AUSTIN BRADLEY  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2800







Attachment 3

Gettig et al

US 4963103